

Appl. No. 09/892,490

**REMARKS/ARGUMENTS**

The Examiner is thanked for taking the time on May 31, 2007 to discuss with the undersigned some of the claim rejections made in the Office Action dated February 6, 2007. As noted above, a Summary of the Interview is attached hereto as an Appendix.

**Claim Rejections - 35 U.S.C. 112**

Claims 7 to 8 and 10 to 12 were rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. According to pages 7 and 8 of the Office Action, although independent claim 7 recited a method of processing a request for an assertion, none of the steps recited in the claim shows the request being processed. Claims 8 and 10, which depend from claim 7, as well as independent claim 11 and claim 12 which depends therefrom, allegedly contained similar problems.

In accordance with the proposal discussed during the recent Examiner Interview, independent claims 7 and 11 have been amended. With reference to claim 7, for example, this claim as amended recites a processing platform implemented method comprising computer implemented steps. The first and second steps of the claimed method have both been amended to indicate that assertions are between a name and a public key. These amendments effectively remove the request and assertion details from the preamble of the claim, while retaining those details in the body of the claim. Similar amendments have been made to claim 11. The "identifying" step in claim 11 has been further amended to introduce a request for revocation.

As indicated in the attached Interview Summary, it is believed that these amendments fully address the claim rejections under 35 U.S.C. 112, and reconsideration and withdrawal of those rejections are respectfully requested.

Appl. No. 09/892,490

**Claim Rejections - 35 U.S.C. 101**

Claims 3 to 6 and 15 to 16 were rejected as being directed to non-statutory subject matter, specifically software *per se*. The independent claims 3 and 15 have each been amended to specify that at least one claimed component comprises a hardware component. Thus, claim 3 now recites "wherein at least one of the repository, the client interface, the purchase component, the request component, and the revocation component comprises a hardware component", and claim 15 similarly recites "wherein at least one of the means for allocating, the client interface, the means for processing a request, and the means for processing a revocation comprises a hardware component".

It is believed that these amendments to the independent claims 3 and 15 clearly indicate that the systems recited in these claims include a hardware component, and accordingly are not directed to non-statutory subject matter, as discussed during the recent Examiner Interview. The Applicant respectfully requests that the claim rejections under 35 U.S.C. 101 be reconsidered and withdrawn.

**Claim Rejections - 35 U.S.C. 103**

All of the claims stand rejected under 35 U.S.C. 103(a) over combinations of up to four of the five different references cited in the Office Action. Although the Office Action contends that a person skilled in the art would be motivated to make these various combinations, the Applicant strongly disagrees with this conclusion. This opportunity is therefore taken to maintain and supplement arguments that have been made on the record in this regard, with a view to possibly presenting those arguments on Appeal, if necessary.

Considering first the combination of Hsu (United States Patent No. 5,982,898) and Lopez (United States Patent Application Publication No. 2002/0103762, these references relate to substantially diverse areas of technology. The Office Action maintains that both references are from the communication art, and that it would have been obvious to incorporate the teachings of

Appl. No. 09/892,490

these references because Lopez teaches refunding unused time, which would supposedly allow the customers of commercial certificate authorities disclosed by Hsu to not worry about wasting money if a certificate becomes compromised and must be cancelled before it would naturally expire.

However, the fact remains that Hsu relates to a certification process, and Lopez relates to managing access to a prepaid communications account. Hsu does not at all mention prepaid calling cards or communications accounts and Lopez similarly does not refer to a certification process. It is thus again respectfully submitted that a person of skill in the art to which the present application pertains would not reasonably conclude that the teachings of Hsu and Lopez could be combined, and accordingly would not be motivated to attempt to make such a combination.

The Applicant does not agree that there is any motivation to combine the teachings of Hsu, in the security or cryptographic arts, with those of Lopez, in the telephony art. It is respectfully submitted that the characterization of these technologies as being from the common subject area of communications is not correct. Such a characterization is unreasonably broad and there would not be any person of ordinary skill who could be expected to have a comprehensive understanding of such a broad subject area.

For example, according to the Office Action, a person of ordinary skill in communications would have to be familiar with such diverse topics as telephony, wireless networking, fibre optics, satellite communications, microwave communications, digital encoding, analog encoding, cryptography, computer security, photonics, local area networking, narrow-band networking, broad-band networking, communication protocols, etc. Although the Office Action would appear to group all of these very different technologies under the umbrella of communications, certainly a person skilled in the area of security could not be expected to be familiar with every type of technology that could possibly have any sort of connection with the field of communications.

Appl. No. 09/892,490

The Applicant submits that a person of ordinary skill in the art of the present application would be more reasonably characterized as someone with a Bachelor level degree with a focus on cryptography or computer security. This is not a person who would likely also be familiar with telephony. Accordingly, it would be reasonable for such a person to have an awareness of the technology covered by Hsu, but such a person would not reasonably be expected to be familiar with the subject matter of Lopez. Indeed, it is again worth noting that Lopez does not even mention security or cryptography, and hence it would not be reasonable for someone of ordinary skill in cryptography or computer security to be familiar with that subject matter.

The Office Action also relies on a combination of Lopez and Cordery (United States Patent No. 5,796,841) in rejecting some of the claims. Like Hsu, Cordery also relates to cryptography and certificates. It is respectfully submitted that a skilled person would not be familiar with the diverse technical areas to which Cordery and Lopez relate, at least for the same reasons as discussed above in connection with Hsu. Although Cordery does mention a payment system at Column 2, lines 18 to 19, it is not clear how this statement could possibly be construed as a motivation to integrate a certificate system with the prepaid account system of Lopez.

Peyret (United States Patent No. 5,923,884), which has been further combined with Cordery and Lopez in rejecting some of the claims, is even further removed from the technical field of the present application. This reference relates to loading applications onto a smart card, and appears to have, at best, only a peripheral connection with even the overly broad field of communications. Despite this fact, the Office Action points to replenishing use rights associated with an applet as supposedly providing motivation to somehow combine a smart card application loading system and method with both a cryptographic system and a telephony prepaid account system.

The fifth reference cited in the Office Action, Anvekar (United States Patent Application Publication No. 2002/0069188), comes from yet another technical field, and nevertheless is combined with Cordery and Lopez, and in some cases is further combined with Peyret, to support claim rejections. In respect of this further combination, a skilled person would be expected to

Appl. No. 09/892,490

have knowledge not only of security and telephony, but also application loading and management as well as on-line payment settlement as taught in Anvekar.

It is respectfully submitted that a skilled person would not possibly be aware of these references, in significantly different fields of technology, much less be motivated to combine the teachings of such references into one integrated system. One could only conceivably identify such a collection of references by dissecting the Applicant's claims, and specifically searching a broad range of technical fields to find each piece of the claimed invention in isolation. This type of analysis is not valid for demonstrating obviousness. In addition, such isolated and unrelated "pieces" cannot merely be cobbled together in some fashion so as to allegedly arrive at a claimed invention. A skilled person must have a motivation to make any combination, and the Applicant believes that there is no such motivation in the present case.

The Applicant's assertion of the lack of motivation to combine the cited references is not based only on the diverse technical fields in which the various cited references are based. The primary cited references, namely Hsu and Cordery in the field of security and Lopez in the field of telephony, are significantly different in terms of time management.

In Hsu and Cordery, certificates are issued, and may have a certain expiration time. Before a certificate expires, its signature can be verified as often as needed, and might not even be verified at all. Regardless of whether and how many times its signature is actually verified, the certificate expires at its expiration time.

The term "assertion", in the context of the present application, might be interpreted as a statement verifying the truth of a particular fact for a period of time. In the present application, the fact is that a particular public key is associated with a particular name. A certificate, for example, asserts the truth of a binding between the name and the public key. As a technical matter, signatures get verified at discrete times during the lifetime of a certificate through a mathematical calculation that does not have anything to do with reducing or changing the lifetime of the corresponding certificate. Therefore, to the extent that signature verification is

Appl. No. 09/892,490

performed, it has no effect on the lifetime of the certificate.

Lopez, on the other hand, allocates time to a particular call, and that time expires only if a call is actually in progress for the entire allocated time. This is substantially different than the expiry model of security certificates.

It is stated in the Office Action that it does not matter if the way time is managed in each reference is different. The Applicant strongly disagrees with this conclusion. Whereas Cordery and Hsu relate to certificates that may expire based on the passage of time, Lopez is clearly directed to a usage-based account management system. For at least these reasons, it is respectfully submitted that there would be no motivation for a person skilled in the art to which the present application pertains to combine the cited references in the various manners suggested in the Office Action. Since a *prima facie* case of obviousness requires such motivation, the obviousness rejections are missing a required element, and therefore should be reconsidered and withdrawn.

A *prima facie* case of obviousness also requires that a cited combination must teach all limitations of the rejected claims. The claims are considered in detail below in the order in which the rejections were made in the Office Action.

Claims 1 to 2, 11 to 12, and 17 to 18

These claims were rejected as unpatentable over the combination of either Hsu or Cordery with Lopez, and are discussed separately below.

Claim 1

This claim has again been rejected as unpatentable over Hsu in view of Lopez. According to page 9 and 10 of the Office Action, Hsu allegedly discloses generating an assertion

Appl. No. 09/892,490

and revoking an assertion, but does not explicitly disclose selling a pool of unallocated time, subtracting the lifetime of the assertion from the unallocated time and adding any remaining lifetime of a revoked assertion to the unallocated time. Lopez is then referenced as allegedly disclosing the features that are missing from Hsu. Arguments that were previously placed on the record reiterate the fact that Lopez tracks allocated funds rather than time. Although the Office Action indicates that the manner in which time is tracked is immaterial, the Applicant disagrees with this conclusion, and therefore wishes to maintain and supplement arguments that are currently on the record for the purposes of a possible Appeal if necessary.

Briefly, in Lopez, funds in a prepaid account are allocated to telephone calls. Funds in the account are tracked in terms of value, and allocation is also based on a value of funds. Lopez provides no mechanism whatsoever for selling a pool of unallocated time. A prepaid account includes a monetary value, which cannot be reliably correlated with any particular amount of time. Different calls have different associated costs, and therefore a balance in a prepaid account cannot be considered a pool of unallocated time.

Further, Lopez does not provide for selling a pool of unallocated time. A customer cannot possibly buy, for example, a pool of one hour of unallocated time in Lopez. The costs of such time, and accordingly the balance required for this amount of time in a prepaid account, would vary depending on the specific calls to be made, and could not possibly be predicted when funds are to be added to the prepaid account. At least this aspect of Lopez clearly indicates that the manner in which time is tracked is material.

A further clarifying amendment has been made to claim 1 in order to more clearly set out that the pool of unallocated time is available for assertions.

The notions of time in the context of Lopez and in the context of an assertion as recited in claim 1 are substantially different. The allocation of funds in a prepaid account to actual usage for a telephone call according to the teachings of Lopez is not analogous to the allocation of time to the lifetime of an assertion. This would lead to significant difficulty in somehow combining

Appl. No. 09/892,490

the teachings of Lopez with those of Hsu. Lopez discloses only usage-based tracking of funds, and it is not clear how such a fund management scheme could be adapted to managing certificates, the lifetimes of which generally do not correlate with how often, if ever, the certificates are "actively" used or processed for signature verification, for example.

Although the Office Action includes comments regarding how the teachings of a combination of Hsu and Lopez should be interpreted, and that a piecemeal analysis cannot be applied to the references, it is respectfully submitted that an analysis of the account management features of Lopez is appropriate in the present case, since this reference is relied upon as allegedly curing the acknowledged defects in the teachings of Hsu with respect to the Applicant's claims. Since Hsu does not disclose any form of selling a pool of unallocated time, subtracting the lifetime of a certificate from the unallocated time, or adding remaining lifetime from a revoked certificate to unallocated time, and since Lopez is relied upon as allegedly disclosing these features, it is not clear how any other form of analysis could be applied. At least the above features are not disclosed in Hsu, and substantially different features are disclosed in Lopez. Therefore, the combination of Hsu and Lopez does not disclose at least the above features.

Considering now the combination of Cordery with Lopez, the Office Action acknowledges at page 11 that Cordery, like Hsu, also does not disclose selling a pool of unallocated time, subtracting the lifetime from the unallocated time, and adding any remaining lifetime to the unallocated time. Again, Lopez is relied upon to cure these defects in the alleged disclosure of Cordery.

For at least the same reasons as discussed in detail above with respect to Hsu, Lopez does not provide additional teachings which, in combination with those of Cordery, would render claim 1 obvious. Cordery provides no time tracking whatsoever, and in fact refers to charges for signing a certificate and funds sufficient for such signing. (See Column 7, lines 9 to 17). The combination of Cordery and Lopez therefore cannot possibly disclose selling a pool of unallocated time, subtracting a lifetime from the unallocated time, or adding remaining lifetime to the unallocated time, since neither Cordery nor Lopez discloses tracking time.



Appl. No. 09/892,490

**Claim 2**

Claim 2 depends from claim 1, and was also rejected over the combination of Hsu and Lopez or the combination of Cordery and Lopez. The Office Action points to paragraphs 42 to 43 of Lopez as allegedly disclosing the feature of eroding unallocated time over time. As previously noted on the record, these paragraphs of Lopez refer to allocating talk time to calls based on funds available in a prepaid account. This is not the same as the claimed feature of eroding unallocated time over time. This feature is described, for example, in the second paragraph on page 11 of the present application. As described, accounts are prevented from maintaining unallocated time indefinitely, and the CTM 14 gradually erodes the unallocated time field for each account. No such eroding functions has been disclosed in the referenced paragraphs of Lopez.

The Office Action indicates that this limitation in claim 2 is broader than the limitation as described in the specification. However, this conclusion is not entirely understood. The specification describes eroding on allocated time over time, and claim 2 clearly recites eroding unallocated time over time. It is believed to be entirely clear from claim 2 that this eroding is separate from the process of allocating time to the lifetime of an assertion. Therefore, according to claim 2, unallocated time can be allocated to an assertion by subtracting the lifetime of the assertion from the unallocated time, as recited in claim 1, and can also be further eroded over time, separately from the allocation or subtracting. No such allocation and eroding are taught by either of the combinations cited in the Office Action.

**Claims 17 to 18**

Claims 17 to 18 are substantially similar to claims 1 to 2 and are patentable over the combination of Hsu and Lopez and the combination of Cordery and Lopez for at least the same reasons as claims 1 and 2.

Appl. No. 09/892,490

**Claim 11**

This claim was rejected over the combination of either Hsu or Cordery with Lopez. The arguments presented above with respect to claim 1 also apply to claim 11, and accordingly claim 11 is believed to be patentable over the combinations cited in the Office Action.

**Claim 12**

Claim 12 depends from claim 11, and patentably distinguishes over the combinations cited in the Office Action for at least the same reasons as claim 11.

**Claims 3 to 5 and 15 to 16**

These claims were rejected in the Office Action as being unpatentable over Lopez in view of Cordery and further in view of Peyret. These claims are discussed separately below in the same order as in the Office Action.

**Claim 3**

On pages 14 to 15 of the Office Action, it appears as though authorization to make a telephone call, as allegedly disclosed in Lopez, is being interpreted as a form of assertion. This is clearly not the type of assertion to which the present invention relates and, as noted above, claim 3 has been amended to clarify that assertions are between a name and a public key.

In addition, although the Office Action refers to paragraphs 35 to 36 and 38 of Lopez as allegedly disclosing a request for a portion of talk time to be allocated to a subscriber, claim 3 specifically recites "a lifetime requested through the client interface". Lopez does not disclose or suggest that a subscriber can request a particular allocation for a call by operating a telephone or any other device.

Appl. No. 09/892,490

As will be apparent from the preceding listing of claims, claim 3 has been further amended to clarify the unallocated time and the lifetime of an assertion. Therefore, the above remarks regarding the combination of Cordery and Lopez with respect to claim 1 also apply to claim 3.

With respect to Peyret, this reference is relied upon as allegedly disclosing a purchase component adapted to add bulk lifetime requested through a client interface to unallocated time. Reference is specifically made to Column 6, lines 45 to 49, Column 7, lines 10 to 18, and Column 8, lines 1 to 15 of Peyret. However, Peyret does not appear to disclose any form of adding a bulk lifetime requested through a client interface to unallocated time. The referenced portions of Peyret relate to reloading applets when use rights have been depleted. There is no disclosure or suggestion in Peyret that bulk lifetime can be requested through a client interface or added to unallocated time. Although Peyret does include a reference to a debit applet with a predetermined value (see Column 8, lines 9 to 10), there is no disclosure of a bulk lifetime, unallocated time, or the possibility of requesting bulk lifetime to be added to unallocated time.

For at least these reasons, it is respectfully submitted that the combination of Lopez, Cordery and Peyret does not disclose all of the limitations of independent claim 3.

#### Claims 4 and 5

These claims depend from claim 3 and patentably distinguish over the cited combination of references for at least the same reasons as claim 3.

#### Claims 15 and 16

As noted on page 16 of the Office Action, these claims are means plus function versions of claims 3 and 5, respectively, and independent claim 15 has been amended in a similar manner as claim 3. Therefore, these claims patentably distinguish over the cited combination of references for at least the same reasons as claims 3 and 5.

Appl. No. 09/892,490

**Claim 6**

This claim was rejected as being unpatentable over Lopez, Cordery, Peyret, and Anvekar. Despite the above-noted issues with making this combination of so many diverse references, the combination also fails to disclose all of the limitations of the rejected claim.

Claim 6 depends from claim 3, and therefore includes all of the limitations of claim 3. The rejection of claim 6 is predicated on the rejection of claim 3 on the basis of the combination of Lopez, Cordery, and Peyret. Anvekar does not provide any additional disclosure to cure at least the above-noted defects in the combined teachings of Lopez, Cordery, and Peyret, and accordingly claim 6 patentably distinguishes over the combination of these four references for at least the same reasons as claim 3.

**Claims 7 to 10 and 19 to 21**

These claims stand rejected as being obvious over Cordery in view of Lopez and further in view of Anvekar. Each claim is discussed separately in detail below.

**Claim 7**

In response to the previous Office Action, remarks were presented indicating that claim 7 defined assertion request processing that differs from the combination of Lopez and Hsu at least on the basis of the different notions of time relating to the claimed assertions and the communications account management functions of Lopez. On page 6 of the Office Action, it is stated that those remarks failed to comply with 37 C.F.R. 1.111(b) because they amounted to a general allegation without specifically pointing out how the language of the claims patentably distinguishes the claims from the references. Since the different notions of time between the present application and the cited references had already been discussed in detail in the response, repetition of that discussion in the context of claim 7 was not believed to be necessary.

Appl. No. 09/892,490

However, in an attempt to advance the examination of the present application, specific reference is now made to specific language in claim 7 that distinguishes the claimed request processing over that of the cited combination of references. In particular, claim 7 recites maintaining an unallocated time, the unallocated time being time available for assertions between a name and a public key, accepting a request for an assertion between a name and a public key and a requested lifetime during which the assertion is usable to provide an indication that the public key is associated with the name, determining whether the unallocated time is greater than or equal to the requested lifetime, and, upon determining that the unallocated time is greater than or equal to the requested lifetime, deducting the requested lifetime from the unallocated time. At least this specific language distinguishes independent claim 7 over the combination of Cordery and Lopez. Anvekar does not provide any additional teachings which would render at least these features obvious. Independent claim 7 thus patentably distinguishes over the cited combination of references for at least these reasons.

#### Claim 8

The Office Action refers to Column 6, line 62 to Column 7, line 2 of Cordery as disclosing a step of forwarding a request for an assertion to an entity responsible for generating assertions. Claim 8 has been amended to further recite forwarding the request "where the unallocated time is greater than or equal to the requested lifetime". Thus, according to the claim, a determination as to whether the unallocated time is greater than or equal to the requested lifetime is made before a request for an assertion is forwarded to an entity responsible for generating assertions. This has not been disclosed or suggested in Cordery.

Claim 8 therefore patentably distinguishes over the combination cited in the Office Action at least for the same reasons as claim 7, and further distinguishes over the cited combination for the above reason.

Appl. No. 09/892,490

**Claim 9**

Claim 9 is patentable over the cited combination of references for at least the same reasons as claim 7, from which it depends.

**Claim 10**

Claim 10 recites the further step of eroding the unallocated time over time, and in this respect is similar to claim 2. The above comments regarding this feature in claim 2 thus also apply to claim 10.

**Claims 19 to 21**

Each of these claims recites a computer readable medium having instructions stored thereon for execution on a processing platform to execute the method of claim 7, claim 9, and claim 10, respectively. These claims therefore patentably distinguish over the cited combination of references for at least the same reasons as the claims from which they depend.

**Claim 14**

The combination of Lopez and Cordery was used as the basis for rejecting claim 14. As discussed in detail above, Lopez does not disclose at least an unallocated time, a requested lifetime, deducting a requested lifetime from the unallocated time, or adding remaining lifetime to the unallocated time. These features are also recited in claim 14.

Additional features defined in claim 14 have also not been disclosed in Lopez, as acknowledged on page 21 of the Office Action. In respect of receiving a request for a purchase of bulk lifetime and adding the bulk lifetime to the unallocated time, the Office Action indicates that these features were well known at the time the present invention was made. The example of

Appl. No. 09/892,490

a calling card is used in illustrating this alleged prior knowledge. This example and knowledge again relate to a totally different management scheme, which uses funds or values and not time in the context of claim 14.

Accordingly, claim 14 patentably distinguishes over the combination of Lopez and Cordery.

In view of the foregoing, it is respectfully submitted that a *prima facie* case of obviousness has not been established. At least the required element of a motivation to combine the references as proposed in the Office Action, and the required element that the combination of references must disclose all of the limitations of the rejected claims have not been met. Reconsideration and withdrawal of the claim rejections are therefore respectfully submitted.

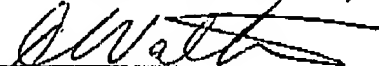
As further discussed above, it is believed that the claim rejections under 35 U.S.C. 101 and 112 have been addressed by amending the claims in the manner discussed during the recent Examiner Interview.

Early and favourable consideration of the application are therefore respectfully requested.

Respectfully submitted,

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